

CAMPUS PARK PROJECT

APPENDIX K

MINERAL RESOURCE TECHNICAL REPORT

SPA 03-008, GPA 03-004, R03-014, VTM 5338 RPL7,
S 07-030, S 07-031, LOG No. 03-02-059
State Clearinghouse No. 2005011092

for the

DRAFT FINAL SUBSEQUENT ENVIRONMENTAL IMPACT REPORT

DECEMBER 3, 2010

FINAL ENVIRONMENTAL IMPACT REPORT MINERAL RESOURCE TECHNICAL REPORT INFORMATION FOR THE READER

This document consists of the Mineral Resource Technical Report for the Campus Park Project (Proposed Project or Project) and analyzes mineral resource elements associated with construction and operation of the Project. Since circulation of the Project Draft Environmental Impact Report (EIR) and associated technical reports, refinements in Project description have been implemented in response to comments received.

The majority of Project refinements occur west of future Horse Ranch Creek Road and all of them would be south of proposed Harvest Glen Lane. The majority of the developed uses and their construction footprints (residential, office professional, recreational and commercial) remain the same as previously analyzed.

South of future Harvest Glen Lane and west of future Horse Ranch Creek Road, the Proposed Project has been refined to: (1) eliminate some development areas, (2) modify specifics of development detail in some areas, and (3) eliminate the potential for connection to an off-site future wastewater treatment plant (WTP) to be constructed by others. Specifics of road design improvements also vary.

Overall, primary design changes result in 325 fewer multi-family homes (a reduction of 41 percent), and an increase in the biological open space preserve of 20.7 acres (or 11 percent). See Figure A for a comparison of the Project evaluated in the Draft EIR with the current plan.

Project refinements relevant to this technical report are addressed below.

Relevant Refinements to Project Description

The Draft EIR included two multi-family residential areas (MF-1 and MF-4) west of future Horse Ranch Creek Road and north of SR 76. These areas were proposed to contain a total of 300 residential units sited on a total of 21.1 acres. Both have been eliminated and now would largely be in open space.

A 2.4-acre detention basin was previously located south of MF-1. With the elimination of MF-1, this basin has been relocated to the north, and the basin size and shape have been modified to encompass a surface area of approximately 5.2 acres (although the detention capacity has not changed as the current basin is shallower). Similarly, a 2.6-acre potential wet weather storage pond associated with a previous wastewater management option would be eliminated (along with any associated impacts), as would any utility lines required to tie into the proposed off-site WTP under this option.

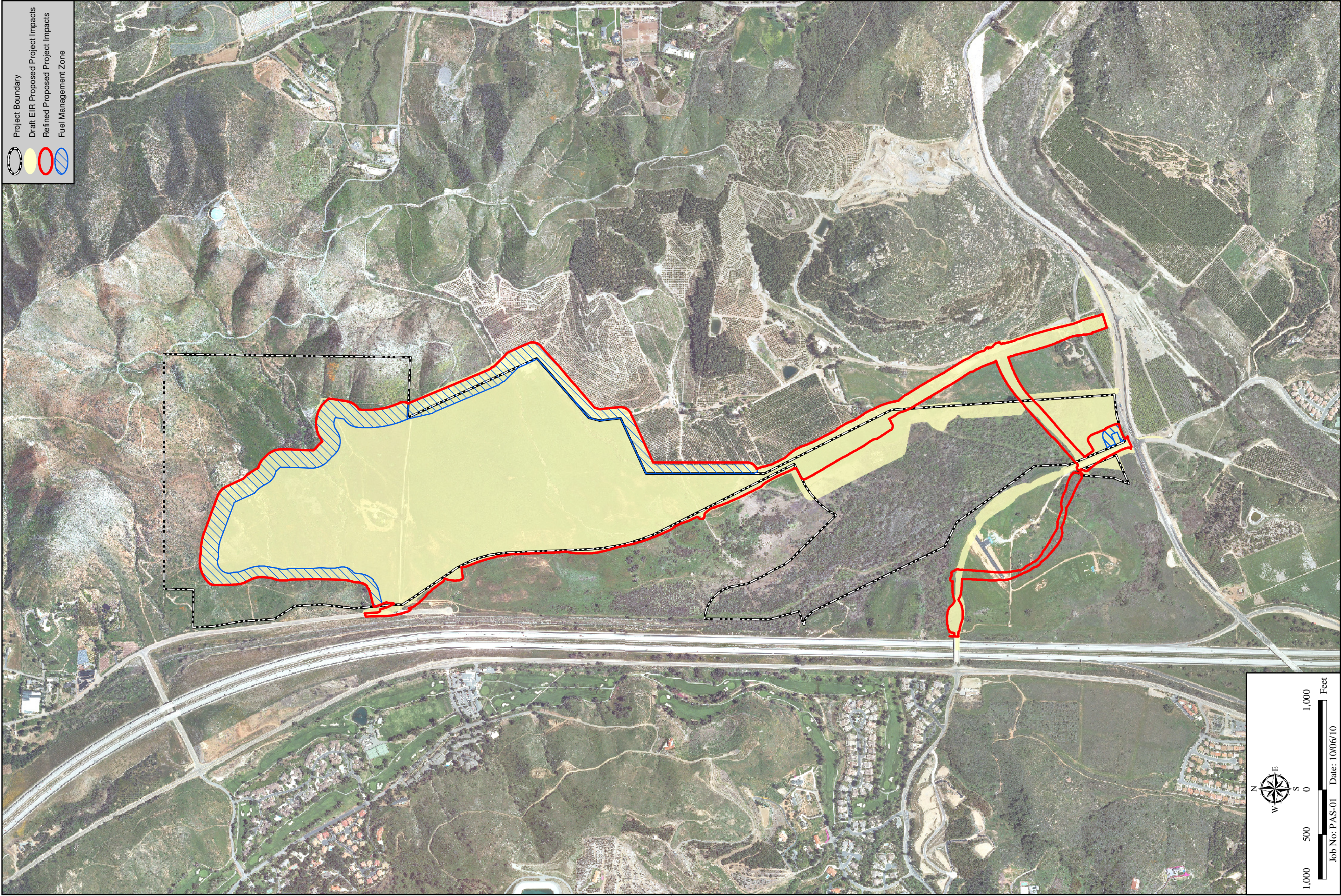
A sewer lift or pump station and trail staging area would be moved from an isolated small Project parcel west of future Pankey Road and north of SR 76 to east of future Pankey Road, in the old area of MF-4.

Changes have been made to specific design of an off-site portion of future Pala Mesa Drive, Pankey Road and on-site Pankey Place. With regard to Pala Mesa Drive/Pankey Road, modifications resulted from a request by the abutting Campus Park West Project to shift a portion of the alignment, and this shift has been worked out in coordination with the Department of Public Works. For on-site Pankey Place, modification is related to deletion of MF-4 on the south side of the road, and retention of open space.

Technical Analysis Modifications Based on Project Description Refinements

Impacts due to Project-related potential loss of on-site mineral resources were determined to be less than significant under the California Environmental Quality Act in the attached report and the EIR. The described changes to the Project would result in an overall reduction in the extent of these less-than-significant impacts. Specifically, the smaller development footprint of the refined Project would result in a corresponding reduction in proposed excavation and construction in areas of alluvial deposits designated as MRZ-2 or MRZ-3. Potential impacts related to off-site mineral resources would be essentially unchanged under the revised Project design. Based on the described considerations, conclusions regarding potential impacts related to on- and off-site mineral resources are still accurate. No change to significance conclusions reached in conformance with the California Environmental Quality Act would occur and no change is required to the attached technical analysis.

Each of the above-cited and additional specific revisions are now included as part of the public record and will be before the Board of Supervisors during their consideration of the Project.



Impact Comparison

CAMPUS PARK

Figure A

HELIX

MINERAL RESOURCE TECHNICAL REPORT,
CAMPUS PARK PROPERTY, FALLBROOK AREA
OF SAN DIEGO COUNTY, CALIFORNIA
(ENVIRONMENTAL LOG NO. _____)

Prepared for:

**COUNTY OF SAN DIEGO,
DEPARTMENT OF LAND USE**

c/o Passerelle LLC, Inc.
402 West Broadway, Suite 1320
San Diego, California 92101

Project No. 042343-001

July 2, 2008

Revised April 2, 2009



Leighton and Associates, Inc.

A LEIGHTON GROUP COMPANY



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July 2, 2008
(Revised April 2, 2009)

Project No. 042343-001

To: County of San Diego Department of Land Use
c/o Passerelle LLC, Inc.
402 West Broadway, Suite 1320
San Diego, California 92101

Attention: Mr. David Davis

Subject: Mineral Resource Technical Report, Campus Park Property, Fallbrook Area of San
Diego County, California (Environmental Log No. _____)

In accordance with your request, we have performed a review and prepared this Mineral Resource Technical Report for the Campus Park property located in San Diego County, California. This report has been prepared for the County of San Diego, per the County of San Diego Land Use and Environment Group's Guidelines for Mineral Resource Technical Report Format and Content requirements.

If you have any questions regarding our report, please contact this office. We appreciate this opportunity to be of service.

Respectfully submitted,

LEIGHTON AND ASSOCIATES, INC.

Michael R. Stewart, CEG 1349
Principal Geologist, Vice President



Distribution: (4) Addressee

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1.0 EXECUTIVE SUMMARY

In accordance with your request and authorization, this report presents the results of our review and assessment of the mineral resources for the approximately 417-acre Campus Park property in the Fallbrook area of northern San Diego County, Site Location Map Figure 1. This report has been prepared for the County of San Diego, per the County of San Diego Land Use and Environment Group's Guidelines for Mineral Resource Technical Report Format and Content requirements. The scope of services included review of the site location relative to the current Mineral Resource Zonation (MRZ) and designations per the California Surface Mining and Reclamation Act (SMARA) of 1975.

Topographically, the site generally consists of a gently sloping hillside terrain that drains to a broad drainage that gently slopes towards the San Luis Rey drainage basin to the southwest. The site geology consists of older terrace deposits with weathered bedrock with sparse rock outcrops in the elevated areas to the east. The lower elevations and southern portion include accumulations of alluvial soils that include loose clays, silts, sands and lesser amounts of gravels. The San Luis Rey River valley located off site to the south contains known mineral deposits that have been locally mined nearby. As a result, this offsite area is designated as MRZ-2 by the California Geological Survey. The western portions of the Campus Park site has been mapped as a MRZ-3 area which means it is an area containing mineral significance of which cannot be completely evaluated from existing data. The remaining area and the majority of the site are not mapped by the state as a Mineral Resource Zone. The property boundaries and extent of mapped mineral resource zones are shown on Figure No. 2, State Mapped Mineral Resource Zones.

We are not aware of any previous onsite mining operations. Successful sand and gravel mining operations are well documented along the San Luis Rey River drainage, and at least 5 sites have historically been mined within a few miles of the Campus Park property. All but one (the Pankey Ranch/Rosemary Mountain site) have been terminated when they were unable to get permits to continue to mine primarily due to environmental reasons.



2.0 INTRODUCTION

2.1 Purpose and Scope

This report presents the results of our review and assessment of the mineral resources for the approximately 417-acre Campus Park property in the Fallbrook area of northern San Diego County. The scope of services included:

- A review of in-house geotechnical reports and aerial photographs pertinent to the area (Appendix A, rear of text).
- Review of readily available geotechnical reports for properties in the same general area.
- A reconnaissance of the site.
- Review of the site location relative to the current Mineral Resource Zonation (MRZ) and designations per the California Surface Mining and Reclamation Act (SMARA) of 1975.
- Preparation of this report summarizing the results of our technical study, including:
 - A discussion of the MRZ's located on, adjacent, and within the vicinity of the project site.
 - A discussion of all mine; quarries, and gemstone deposits (both historic and existing) within the vicinity of the project.
 - A discussion of the regional and local geologic setting as it pertains to any mineral resources identified.
 - Analysis of onsite and offsite impacts to the mineral resource, including indication of whether any mineral resources on the project are now or would be minable, processable, and marketable in the near future. This analysis includes both existing and proposed conditions.
 - A discussion of the economic value and significance of any impacts (if present) considering land-use compatibility with the proposed project.
 - A discussion of any appropriate mitigation measures and project design considerations.



2.2 Project Location and Description

The property is located northeast of the interchange of the Pala Road (SR-76) and the Interstate 15 (Figure 1) in the Fallbrook area of San Diego County. The Campus Park Land Plan as it currently exists proposes to develop fourteen planning areas integrating residential, recreational and open space land uses within the 417-acre area. The project is to include 1,082 dwelling units including a combination of single-family and multi-family dwellings with some office/retail space. In addition, the project would also include a sports complex, neighborhood parks, associated community facilities and infrastructure, and open-space areas.

It is anticipated the development of the site will be accomplished with mass grading, with cuts in the higher elevations and fill areas anticipated in lower site areas. Figure 3 (rear of text) illustrates approximate parcel boundaries, over an aerial photographic base. Figure 4 is a composite land plan showing proposed land usage in the area including the adjacent Campus Park and Palomar Community College District properties.



3.0 EXISTING CONDITIONS

3.1 Topographic Setting

The site is located within the coastal subprovince of the Peninsular Ranges Geomorphic Province, near the western edge of the southern California batholith. The topography at the edge of the batholith changes from the rugged landforms developed on the batholith to the more subdued landforms, which typify the softer sedimentary formations of the coastal plain. Primarily, the site is underlain by the Quaternary-aged Older Alluvium/Terrace deposit over granitic rocks of the southern California batholith with younger alluvial deposits along the western margin. Erosion and regional tectonic uplift created the valleys and ridges of the area.

Generally, natural drainage is presently accomplished through a broad canyon that drains in a south westward direction. Vegetation on the site is generally sparse with localized chaparral and sage scrub in the upper elevations. Some of the lower elevations have generally been cultivated. Portions of the alluvial areas in the southern half of the site are thickly vegetated.

3.2 Land Use

The proposed land use will consist of a residential community with a mix of Single-family detached, multi-family detached and multi-family attached, professional and retail space with supporting infrastructure and open space. A sewer pump station is proposed in the southwest corner of the site adjacent to SR 76.

Adjacent developments will include the proposed Palomar College, Campus Park West, and Meadowood Developments. The extent of these adjacent developments are shown on the attached Figure No. 4. These adjacent developments also include the proposed Horse Ranch Creek Road which diagonally crosses the Campus Park Property and the Pala Mesa Drive and Pankey Place Road connecting to Horse Ranch Creek Road. All of these roads are part of the regional traffic plan and the Pala Mesa Drive provides access across the existing bridge over I-15 to the fire station just west of the freeway. It is also our understanding that Palomar College which is close to receiving its final approvals will construct a portion of Horse Ranch Creek Road along its length through the Campus Park property to SR-76. SR-76 to the east is to be relocated by others to the south as part of improvements related to the Rosemary's Mountain Quarry. We also note that the proposed locations of both SR-76 and Horse Ranch Creek Road are in part controlled by adjacent habitat issues and archeological sites.



3.3 Geology

Based on our site visit and review of our referenced geologic maps (Appendix A), the primary bedrock unit on site is a highly weathered Cretaceous-aged Gabbroic rock. Older and younger alluvial deposits mantle large areas of the site. The generalized geologic map units are illustrated as shown on Figure 5, based on mapping published by the California Geologic Survey (CGS, 2000a and 2000b). The following is a discussion of the generalized geologic units underlying and adjacent to the site.

3.3.1 Active (younger) Alluvium (Map Symbol-Qa)

Holocene-aged (younger than 10,000 years old), alluvial deposits are mapped in the low-lying drainages of the property, generally in the southwestern portion. These unconsolidated (loose) clays, silts, sands have accumulated in the lower-most drainages. The area has been mapped as MRZ-3 by the State, however, the geologic unit in this area is the same as the unit within the San Luis Rey River Valley which has been mapped as MRZ-2. For purposes of this report, the active (younger) alluvium in this area is assumed to be of MRZ-2 quality.

3.3.2 Older Alluvium/Terrace Deposits (Map Symbol-Qoa)

Older alluvium/Terrace Deposits (younger than 500,000 years old) mantle the west flank of the site in central portions. These sediments are differentiated from the younger deposits due to a greater degree of consolidation. For example, these deposits tend to be weakly cemented and poorly sorted, commonly containing interfingering silts, clays, and fine sands that have been consolidated with age. Such deposits are also mapped to the southwest of the site, comprising the Pala Mesa. These deposits commonly support such developments, as they traditionally form relatively flat terraces of gently topographic relief elevated above the alluvial valley bottoms. Older alluvial deposits are generally not classified as MRZ-2 outright due to their variable composition, and fine-grained component. These areas are currently mapped as MRZ-3 (Figure No. 2).



3.3.3 San Marcos Gabbro Rock (Map Symbol-Kgb)

Monserate Mountain, and the northern portion of the Campus Park property is underlain by a fine-grained, dark gray igneous rock, or gabbro, based on the regional geologic map (Figure 5). Through much of the map area, surficial deposits of colluvium, alluvium, and slopewash are generally minor and not considered thick enough to be significant at the map scale presented.

The gabbroic unit (Kgb) comprises Monserate Mountain, as well as much of the San Marcos Mountains, to the south. These units are typically highly weathered and because they contain low amounts of silica (quartz) no significant aggregate extraction operations are known to have operated in this unit in the Monserate Mountain area. Portions of the unweathered gabbroic rock of the San Marcos Mountains 8 to 10 miles southwest of the site has been utilized for "Black Granite" dimension stone (Wood, 1974). No current or historic uses for the Monserate Mountain gabbro have been identified, based on review of available literature (Weber, 1958, CGS, 1997-1998). Based on our visual observation, the gabbro is moderately to deeply weathered and decomposed, as the terrain is generally subdued and larger boulder-sized outcrops are relatively rare. Geotechnical reports for the adjacent site (Geocon, 2006) also indicate that this material is weathered to depths of 20 to 30 feet in areas and contains a significant amount of fine-grained material (clay, silt, and fine sand).

3.4 Mineral Resource Potential

As mandated by the Surface Mining and Reclamation Act of 1975, the California State Mining and Geology Board classifies California mineral resources with the Mineral Resource Zones (MRZ's) system. These zones have been established based on the presence or absence of significant sand and gravel deposits and crushed rock source area, e.g., products used in the production of cement. The classification system emphasizes Portland Cement Concrete (PCC) aggregate, which is subject to a series of specifications to ensure the manufacture of strong durable concrete. The following guidelines are presented in the mineral land classification for the region (CGS, 1982 and 1996b).

- MRZ-2 - Areas where adequate information indicates that significant mineral deposits are present or where it is judged that there is a high likelihood for their presence.
- MRZ-3 - Areas containing mineral deposits, the significance of which cannot be evaluated from available data.
- MRZ-4 - Areas where available information is inadequate for assignment to any other MRZ zone.



3.4.1 MRZ-2 Mapped Areas

The extent of zones classified as MRZ-2 in the vicinity of the Campus Park site are identified on the Figures 2 and 6 (Rear of Text). It generally corresponds with the east-west trending to the San Luis Rey River drainage area which is primarily off site. The MRZ-2 does underlie the alignment of SR-76 along the southerly boundary of the site. This material includes a relatively thick accumulation of alluvial deposits, with an irregular, organic boundary defined by the low-lying topographic drainage margin. Geologically, this area is generally characterized by the presence of younger (Quaternary-aged) river channel, floodplain, and terrace deposits that have been eroded from the older (Tertiary to Cretaceous-aged) bedrock units, transported, and re-deposited. They consist of naturally loose mixtures of sands and rounded gravels.

The greater San Luis Rey River Valley has been identified as a resource area contains an estimated 1.6 billion tons of sand and 1.2 billion tons of coarse aggregate through the 14,607 acre drainage basin (CGS, 1982). The Campus Park site is located northwest of what are identified as Sectors C and D of the San Luis Rey Resource area (Figure 6). Sector C comprises the middle reaches of the San Luis Rey River Channel which includes Bonsall eastward to less than 1 mile east of the Interstate 15, covering about 2,160-acres. Sector D is a 3,740 acre area mapped between the Pauma Valley on the upstream end, to the Interstate 15/Highway 395 corridor on the downstream end. The DMG has estimated 990 million tons of quality (PCC Grade) aggregate resources in Sectors C and D, including 660 million tons of sand and 330 million tons of gravel (CGS, 1982).

Because the MRZ-3 mapped active alluvial (younger) areas are correlative geologically to MRZ-2 mineral resources (Sectors C and D), they are considered as such for this report and are shown as "Younger Alluvium" on Figures 2 and 6.

- Fenton Sand Mine

A short distance southwest of the Campus Park site is the Fenton Sand Mine which originated as a 27 acre sand mine initially permitted in 1969 (Chester, 2000). In 1975 a 30-year Major Use Permit (74-088) was granted to allow extraction from an expanded 211-acre area. It was operated by the H.G. Fenton Company (CGS, 1983) through November of 1998, when Hanson Aggregates assumed responsibility of the operation. They continued to mine and process sand and gravel from the 10331 Pala Road address through 2000. The discovery of endangered species in areas bordering the operation, including the Arroyo Toad, the Least Bell's Vireo, and the Southwestern Willow flycatcher, evidently limited Hanson's ability to expand the mine (Chester, 2000). Hanson closed the sand and gravel processing plant as of September 15, 2005 (CRWCCB,



2006). Although the plans for long-term usage of the site have been debated, the site does include a 207-acre conservation easement established by Hanson in accordance with their Clean Water Act Section 404 permit. The site has therefore been adopted back into the San Luis Rey fluvial ecosystem as overseen by the U.S. Fish and Wildlife Service, the Army Corps of Engineers, and the California Department of Fish and Game.

- Pankey Pits

The closest known historical aggregate extraction operation is located to the southeast of the site, closer to the San Luis Rey River. This property was originally known as the Pankey Pits, where the Marron Brothers extracted sand and gravel from the San Luis Rey river drainage (CGS, 1983). Like many in-stream operations, permitting processes and regulations became increasingly difficult, and the site was entirely inactive by the early 1990's (CGS, 1996). However, an adjacent parcel known as the Pankey Ranch was acquired by Palomar Aggregates in 1997.

- Pankey Ranch/Rosemary's Mountain

In the late 1980's Palomar Grading and Paving acquired a lease on the Pankey Ranch, an elevated hillside immediately north of the Pankey Pits historically operated within the San Luis Rey River. The approximate 100-acre site is a small peak known as Rosemary's Mountain, ranging in elevation of approximately 300 to 990 feet (Figure 6). In 1989, Palomar submitted a petition to the State of California Division of Mines and Geology for a reclassification of the MRZ-3 zoned property to MRZ-2. Based on data provided by Palomar, and confirmed by the CDMG Staff, aggregate from the site met the published Caltrans Standards for Portland cement concrete, asphaltic concrete, base, and sub-base. The mixed aggregate resources demonstrated far exceeded the minimum threshold value of 9.2 million 1988 dollars established by the SMARA and the petition was granted by the State Division of Mines and Geology (CGS, 1989).

The Granite Construction Company has since partnered with Palomar on the project, and a Major Use permit has been obtained. Plans for the rock crushing, extraction of aggregate and operation of an asphalt plant on 38 acres of the 94-acre site are in progress. The operation also includes plans for the improvement/widening of the Pala Road (SR-76). The exact status of the operation is unknown at the time of the production of this



report; however, the widening of the SR-76 is evidently underway (NC Times, 2007b).

3.4.2 MRZ-3 Mapped Areas

Site specific laboratory testing has not confirmed the physical and chemical characteristics of the onsite alluvial deposits. However, PCC-grade aggregate, successful sand and gravel mining operations are well documented along the San Luis Rey River, drainage in the designated MRZ-2 areas. Documented historical aggregate extraction operations are identified on Figure 6 and all but one (the Pankey Ranch/Rosemary Mountain site) has been terminated when the operators were no longer able to obtain a permit due to environmental constraints.

Portions of the Campus Park site and immediately surrounding area are mapped as MRZ-3 by the California Geological Survey and explanation is provided below (CGS, 1983 and 1996). In contrast to MRZ-2 areas where it has been judged that there is a high likelihood of minable, marketable mineral deposits (notably Portland cement and asphaltic concrete aggregate), MRZ-3 areas are areas where the data is not sufficient to evaluate the significance of any potential aggregate deposit. According to explanations presented by the California Division Mines and Geology (CGS, 1982) geologic formations or deposits that do not or have not been utilized for aggregate commonly do not have test data and studies are not available. Such areas mapped as MRZ-3 include a wide variety of areas across all of San Diego County.

The western portion of Campus Park Property contains geologic formations mapped as MRZ-3, because these units are in general, more weathered, contain more fines and are less minable and marketable than adjacent known deposits. In addition, the weathered mafic granitic rocks of the Campus Park hillsides and the older alluvial terrace deposits on the lower plain are differentiated from adjacent areas known to be MRZ-2, such as the San Luis Rey alluvium, as well as the leucocratic granodiorite comprising the adjacent Rosemary's Mountain.

In summary, the majority of the Campus Park property is not underlain by geologic units traditionally known as desirable, marketable sources units of sand or aggregate suitable for asphaltic concrete or Portland Cement Concrete. However, the area near the existing SR-76 is underlain by younger alluvium of the San Luis Rey drainage and can be considered to be correlative with the alluvium identified as MRZ-2 in Sectors C and D to the south. This area is currently proposed to remain as open space.



4.0 MINERAL RESOURCE IMPACT ANALYSES

4.1 Methodology for Determination of Significance

Considering the site characteristics described above, their significance is measured against the County of San Diego Department of Land Use Guidelines (DPLU, 2007). These are based on the State CEQA Guidelines, and establish a measurable standard for determining when an impact will be considered significant pursuant to CEQA.

4.1.1 Marketability and Minimum Dollar Value

Portions of the Campus Park project are situated on areas classified as MRZ-3. The acreage generally includes the westerly portions of the site and encompasses approximately 284 acres. The area mapped as Qa on the Regional Geologic Map (Figure 5) and proposed as open space is mapped as MRZ-3 but could possibly be considered generally similar in composition to the San Luis Rey River areas mapped as MRZ-2. This area is approximately 105 acres and has been assumed to be MRZ-2 material for this report.

4.1.2 Land Use Compatibility

With regard to land-use compatibility, we first looked at what existing onsite or offsite uses are present that currently impact the proposed land use and the feasibility of a mining operation. Secondly, we looked at what resource areas may be impacted in the future by the proposed development if they are within a 1,300 foot buffer zone. The remaining guideline for significance determination involves whether or not the deposit is minable or compatible with the present conditions. In order to be minable, it must be considered compatible with existing land uses.

As shown on Figure 4, surrounding land uses include the Rosemary's Mountain to the east and south, and the residential communities and recreational facilities to the west. The Campus Park property overlooks the Interstate 15 Corridor. In general land usage up the SR76 route to the east is generally rural (with a few scattered residences). There are also the existing nurseries, agricultural plots, and the past sand mines in the upper San Luis Rey drainage (Figure 6). To the south and west by contrast, residential usage predominates, with both existing as well as proposed developments. For example, developments such as Meadowood and the Palomar Community College District and Campus Park West have been identified in the near term planning adjacent to the site. The Pala Mesa golf club and resort is situated opposite the site. In addition, the proposed Horse Ranch Creek Road



and other planned regional roads which will be built by others will bisect the Campus Park in a north south direction.

Based on cursory review of Environmental Impact Studies performed for the Rosemary's Mountain operation, specific conditions made the Rosemary's Mountain site suitable as a quarry site. These include location on the east-facing flank of Rosemary's Mountain, essentially shielding it from the view and impacts to the Pala Mesa resort and Interstate 15 corridor. The Campus Park Property is more akin to the Pala Mesa resort, well exposed within clear site and view shed of surrounding areas.

Based on the County of San Diego Guidelines, 1,300 feet has generally been considered the buffer from residences necessary to achieve adequate separation from noise, dust and other characteristics generated by aggregate extraction and processing. Figure 7 also includes a 1,300-foot buffer shown in cross hatching from the existing adjacent residential development. Areas on the Campus Park site that are within this 1,300 buffer zone are also not suitable for reclamation.

4.2 Conclusions

4.2.1 Significance of Impacts

Actual MRZ-2 material on site is limited to the area that underlies the SR-76 alignment and as a result has already effectively been lost. Other MRZ-2 deposits that are off site are also essentially lost because they are within 1,300 feet of existing residential properties as shown on Figure No. 7. The area within the site that has been assumed to be of MRZ-2 quality consists of approximately 105 acres. Of this area approximately 97.2 acres have already been essentially lost because they are within 1,300 feet of existing residential properties with two areas that combined total 7.8 acres of assumed MRZ-2 material that is potentially recoverable. The data regarding the MRZ-3 material to the north is not sufficient to confirm that it is of sufficient quality to warrant extraction. The areas identified as Older Alluvium/Terrace Deposits have been investigated on the adjacent parcel by others (Geocon, 2006) and been found to contain "over 60 feet of medium-dense to dense reddish brown silty to clayey fine to coarse sand." Because of the fine-grained nature and weathered condition of this material it has not been a suitable candidate for extraction on other similar properties. The remainder of the site is underlain by the San Marcos Gabbro and this material is also highly weathered as evidenced by the subdued topography and lack of boulder outcrops. Again where investigated by others on the adjacent site (Geocon, 2006) this material is deeply fractured and weathered to depths of 20 to 30 feet. Also as noted above because of the lack of siliceous minerals, this unit weathers to a fine grained soil typically not a candidate for extraction.



In conclusion, because of the very limited amount of MRZ-2 material on the site there is not sufficient available resources to meet the level of significance for mineral resources in the sites existing condition. There are adjacent offsite deposits of MRZ-2 quality material that are within 1,300 feet of the proposed development; however, there are already existing offsite residential properties for which a 1,300 foot buffer again already eliminates the potential for possible future extraction of these areas. The two areas which remain include one of 1.3 acres and another of 6.5 acres (Figure 7). In order to evaluate the significance of the 7.8 acres of assumed MRZ-2 material within the site that is potentially recoverable, we have assumed a potential depth of recovery of 20 feet due to probable groundwater constraints. With these conditions, the value of this material is approximately eight-million dollars which is well below the County's threshold value of fifteen million dollars (15,000,000.00) and as a result, is not considered a significant impact.



5.0 REFERENCES AND COMMUNICATIONS

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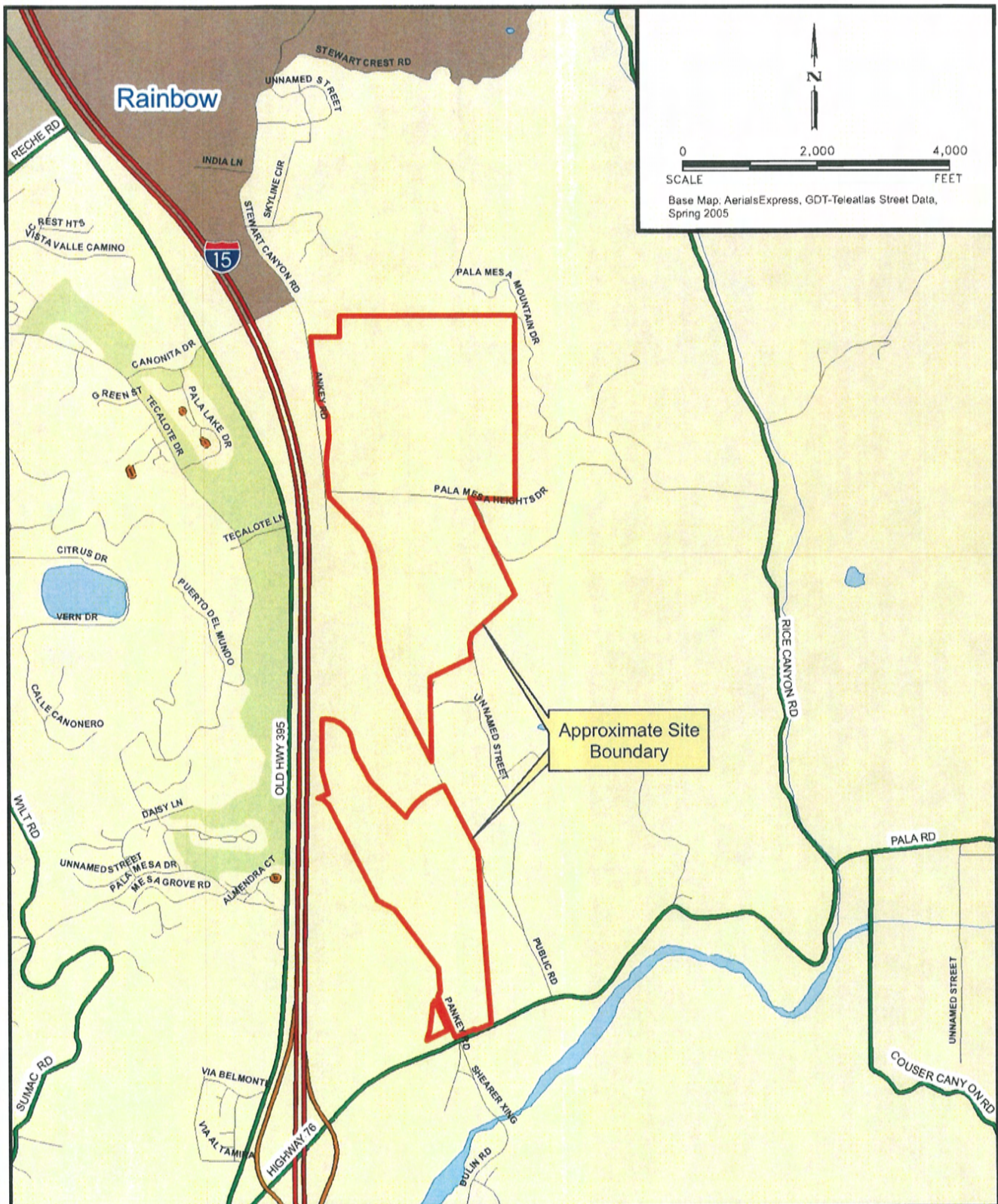
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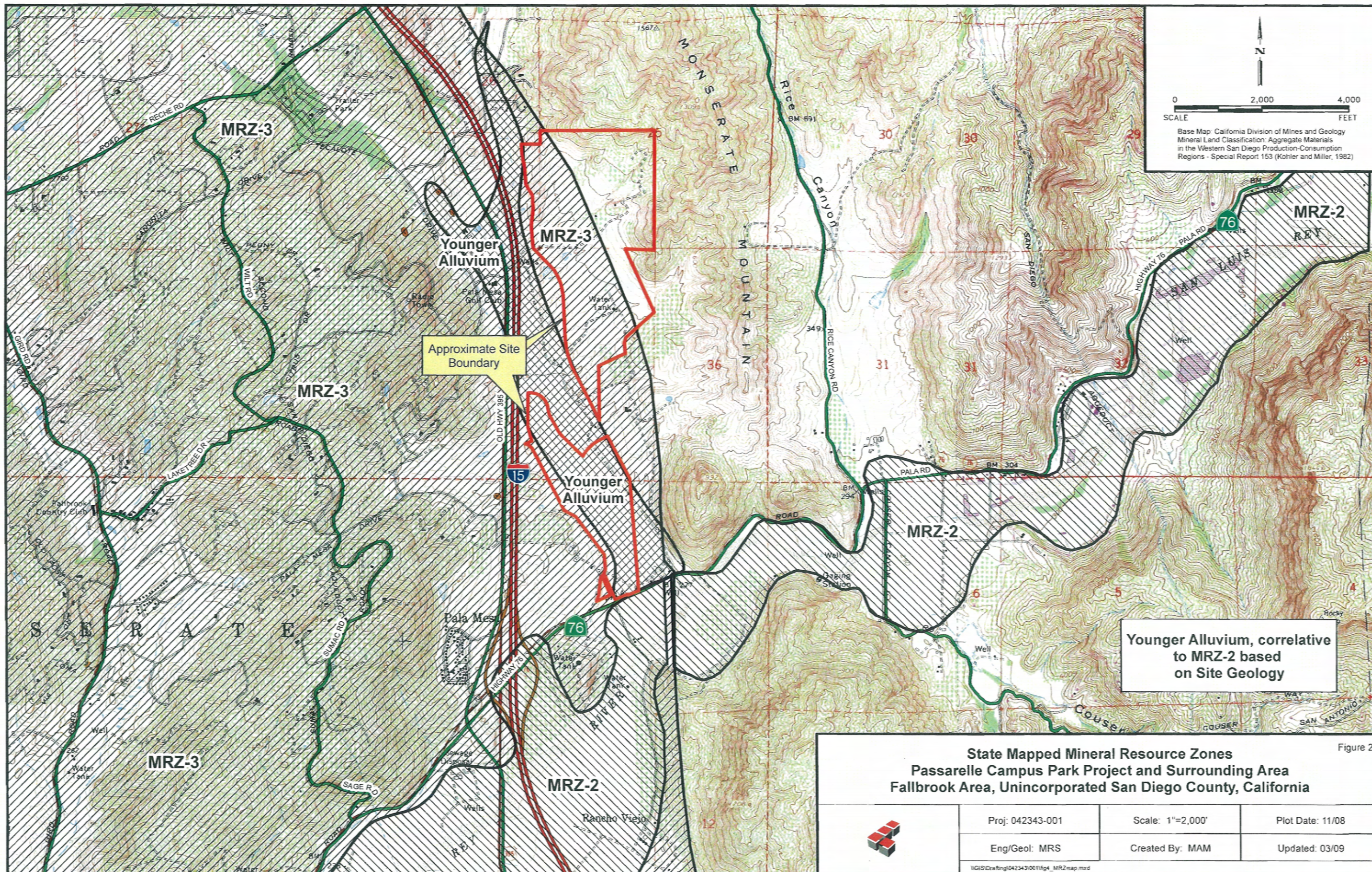
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Aerial Photographs

Date	Source	Flight/Scale	Photo No(s)
5/17/2006	Aerials Express	Digital Files	N/A







**State Mapped Mineral Resource Zones
Passarelle Campus Park Project and Surrounding Area
Fallbrook Area, Unincorporated San Diego County, California**

Figure 2



Proj: 042343-001

Scale: 1"=2,000'

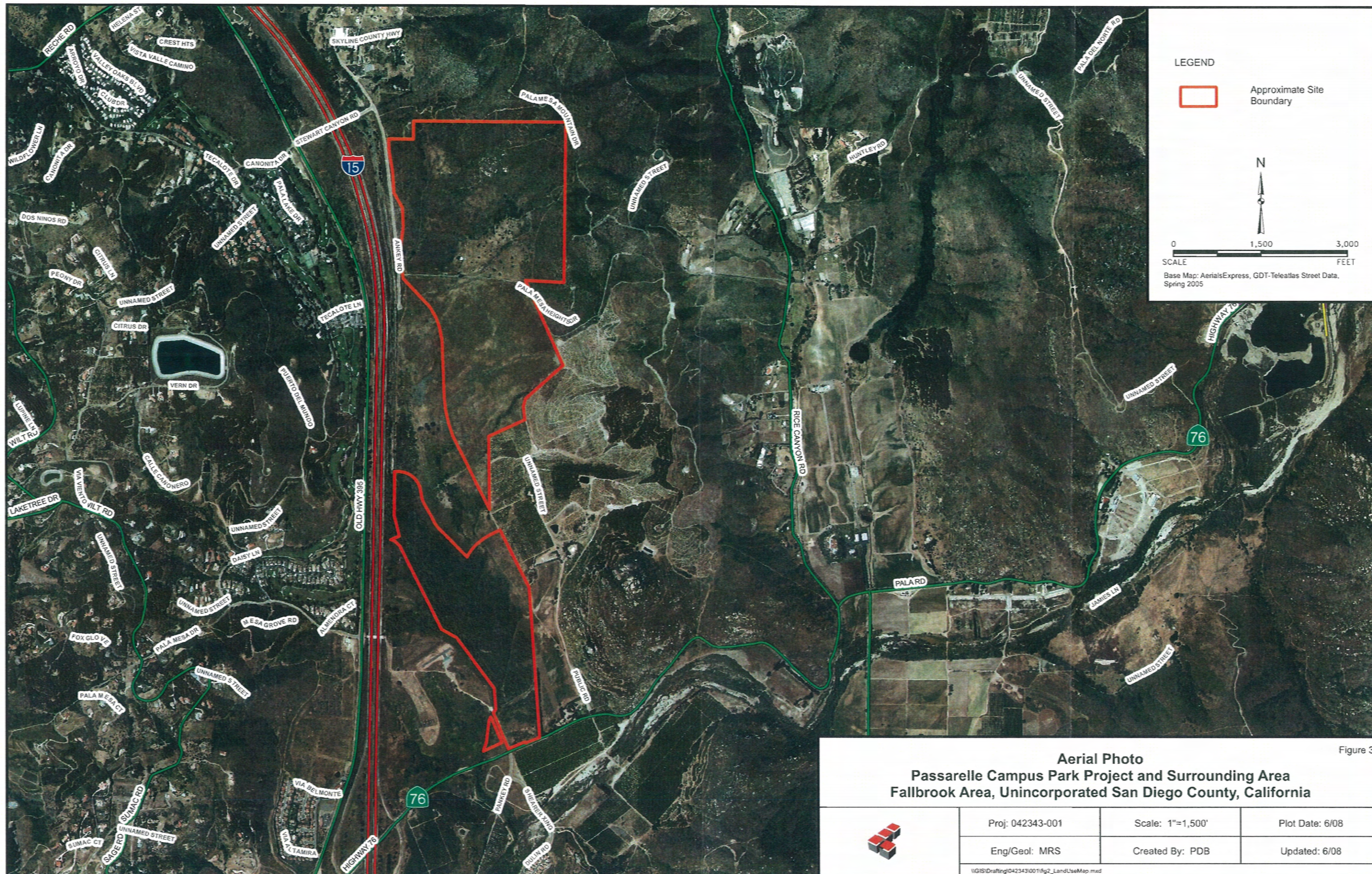
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Eng/Geol: MRS

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Updated: 03/09

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LEGEND

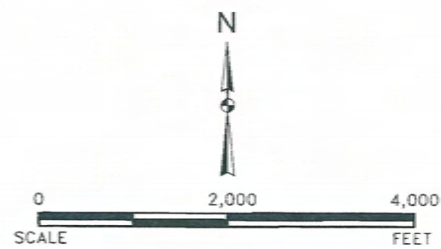
Surficial Units

- Qa** Active alluvial flood plain deposits (late Holocene) - Unconsolidated to locally poorly consolidated sand and gravel deposits in active alluvial flood plains.
- Qoa** Older alluvial flood plain deposits (Pleistocene, younger than 500,000 years) - Mostly moderately well consolidated, poorly sorted, permeable flood plain deposits.

Bedrock Units

- Ki** Granodiorite of Indian Mountain (Cretaceous) - Biotite leucocratic granodiorite; white, fine to medium grained and massive.
- Kt** Tonalite undivided (Cretaceous) - Mostly hornblende-biotite tonalite; coarse grained, light gray.
- Kgb** Gabbro undivided (Cretaceous) - Mostly biotite-hornblende-hypersthene gabbro; coarse grained, dark gray massive.
- KJm** Metavolcanic and metasedimentary rocks undivided (Cretaceous and Jurassic) - Low grade (greenschist facies) rocks that are in part coeval with and in part older than the Cretaceous plutonic rocks they lie in contact with.

 Pegmatite dike



Base Map: CGS Preliminary Map Series; Geologic Map of the Bonsall and Pala Quadrangles (Kennedy 2000a and 2000b)

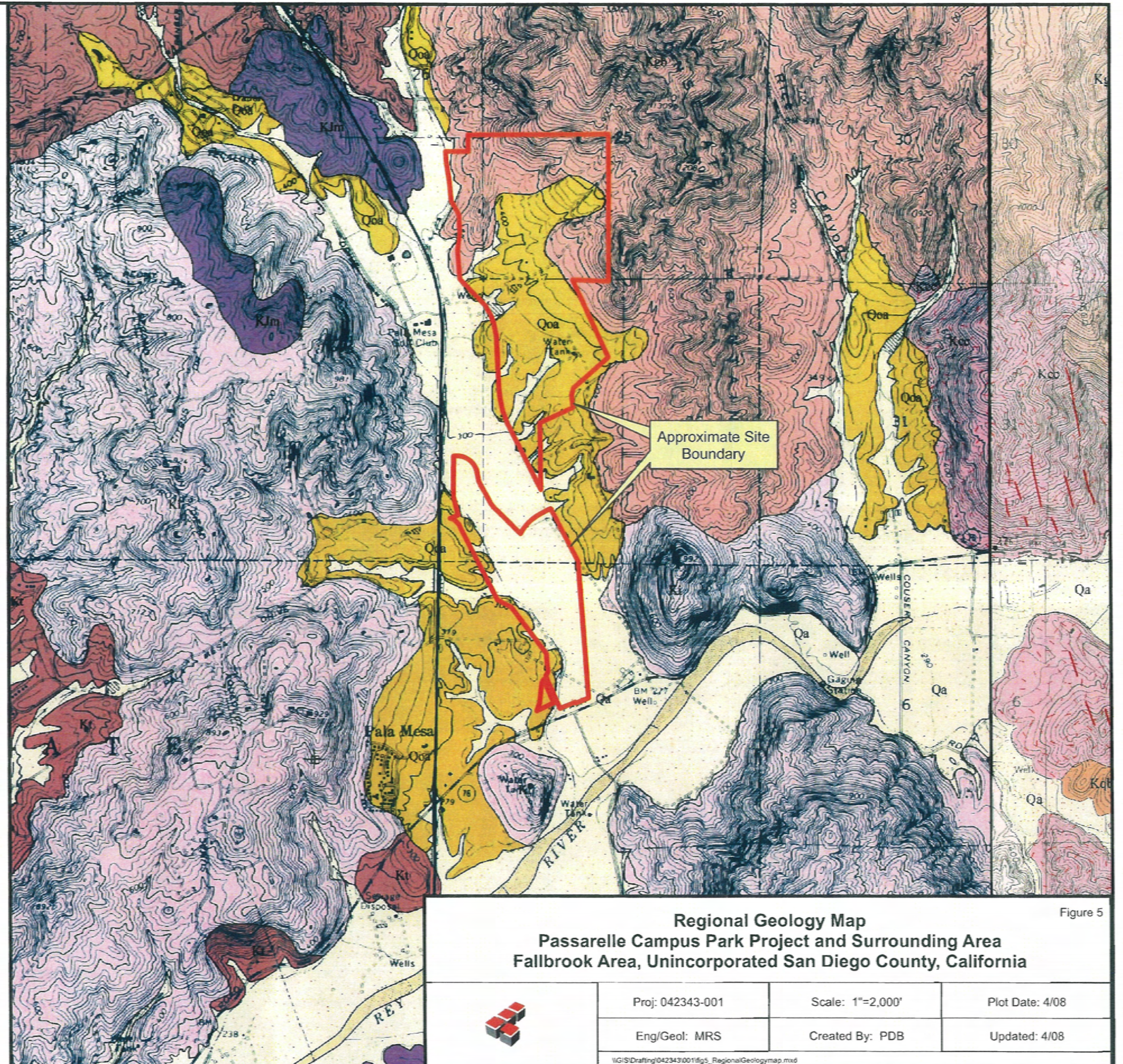


Figure 5

